

Source Water Assessment Program (SWAP) Report

For

Custom Extrusion, Inc.



Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

Date Prepared:
March 23, 2001

Table 1: Public Water System (PWS) Information

<i>PWS Name</i>	Custom Extrusion, Inc.
<i>PWS Address</i>	34 Home Road
<i>City/Town</i>	Sheffield, Massachusetts
<i>PWS ID Number</i>	1267010
<i>Local Contact</i>	Franklin Kellogg
<i>Phone Number</i>	413-229-3098

<i>Well Name</i>	<i>Source ID#</i>	<i>Zone I (in feet)</i>	<i>IWPA (in feet)</i>	<i>Source Susceptibility</i>
Well #1	01G	190	487	High
Well #2	02G	190	487	High

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- ? inventory land uses within the recharge areas of all public water supply sources;
- ? assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? publicize the results to provide support for improved protection.

Maintaining Your Good Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

INTRODUCTION

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential contaminant sources, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Massachusetts Department of Environmental Protection (MA DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. DESCRIPTION OF THE WATER SYSTEM

The Custom Extrusion Inc. (CEI) manufacturing facility, has been in business since 1957, employs approximately 45 people, and produces custom-made rigid thermo-plastic parts and forms. CEI manufactures its own metal dies, can run up to seven extrusion lines and supply specialized product finishing. The facility consists of approximately 50% manufacturing and finishing and 50% storage and warehousing. The two water supply wells, the primary well, Well #1 and the auxiliary well, Well #2, are located approximately 10 feet from the southeast side of the main building and approximately 25 feet from the southwest corner of the main building, respectively. Both wells have a Zone I of 190 feet and an Interim Wellhead Protection Area (IWPA) of 487 feet. The

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.

- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

Zone I and IWPA protective radii were calculated utilizing historical metered water use data submitted by CEI.

Both wells have their casing extending above grade and are 6inch diameter bedrock wells drilled into a carbonate formation consisting generally of dolomite and marble. The generalized geologic map of the area indicates fairly complex folding and faulting of the bedrock with several geologic contacts in the immediate vicinity of the site. Well #1 was drilled in 1988 and is reportedly 450 feet deep with an estimated yield of 50 gpm; well #2 was drilled in 1957 and is 165 feet deep and does not have a yield estimate. Bedrock is relatively shallow in the immediate vicinity of the facility and therefore the aquifer has a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration from surface spills. Although Well #1 is in close proximity to the parking areas and the process buildings, it is utilized as the primary well because it has fewer potential contamination sources proximal (within the Zone I) to the well and supplies adequate yield for the facility's needs. Well #2 reportedly has limited yield and is immediately adjacent to an abandoned dry well, a 10,000 fuel oil underground storage tank and a sanitary waste (septic) system that is scheduled to be abandoned and replaced outside of the Zone I. Please refer to the attached map of the Zone I and IWPA.

The water currently does not require treatment and is not treated. For current information on monitoring results, please contact Mr. Franklin Kellogg from CEI at the number listed above.

Current Status

The CEI facility is currently in compliance with and proceeding under a mutually agreed upon Administrative Consent Order to bring all wastewater and other water discharges into compliance with appropriate regulations. CEI has made commendable progress in eliminating uncontrolled discharges of water to the environment through floor drains, dry wells and several septic systems. Sampling of the soil and groundwater at those former water disposal sites show no indication of contamination at the facility.

2. DISCUSSION OF LAND USES IN THE PROTECTION AREAS

There are a number of land uses and activities within the drinking water supply protection areas for CEI's water supplies that are potential sources of contamination. The overall ranking of susceptibility to contamination for the wells is high, based on the

presence of at least one high threat land use or activity in the Zone Is, as seen in Table 2.

Key issues include:

1. Nonconforming Zone Is;
2. Storage, Use and Generation of Hazardous Materials in the Zone I and IWPA
3. Underground Storage Tank (UST) for Heating Oil
4. Roadways

1. Zone Is - Currently, neither Well 1 nor 2 meet DEP's restrictions, that allow only water supply related activities in Zone I. The Zone Is for Wells 1 and 2 contain the process area, office and storage facility, parking areas and roads. The 10,000 gal. UST is also located within the Zone I of Well #2. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or

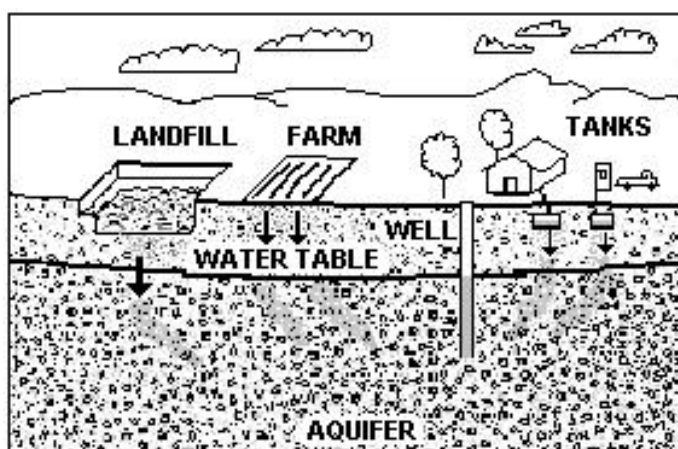


Figure 1: Example of how a well could become contaminated by different land uses and activities.

Table 2: Table of Activities within the Water Supply Protection Areas for Wells #1 and #2

Facility Type	Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Plastic Extrusion/Manufacture	Fuel Storage Below Ground (UST)	Well #2	Well #1	High	10,000 gallon fiberglass No 2 fuel oil tank
	Hazardous Materials Storage	Both wells	No	Moderate	Storage and use of oils and solvents with containment
	Parking lot & driveways	Both wells	Both wells	Moderate	Limit salt usage and provide drainage away from wells
	Septic System	No	Both wells	Moderate	See septic systems brochure in the appendix
	Very Small Quantity Hazardous Waste Generator (VSQG)	Both wells	Both wells	Low	Generation of waste oils and solvents
Residential Homes	Septic Systems/lawn care	No	Both wells	Moderate	See septic systems brochure in the appendix
	Local roads	Both wells	Both wells	Moderate	Notify local maintenance/emergency response personnel that you are a PWS
Agriculture	Pasture	No	Well #2	Low	Only haying at present. No significant agricultural threat at this time

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

For More Information:

Contact Catherine V. Skiba in DEP's Springfield Regional Office at (413) 755-2119 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on DEP's web site at: www.state.ma.us/dep/brp/dws/.

modifying systems.

Recommendations:

- Keep all new non-water supply activities out of the Zone I.
- Educate all staff regarding the importance of proper disposal practices and use of Best Management Practices.

2. Hazardous Materials - CEI is a registered very small quantity hazardous waste generator. The facility stores raw product and waste materials in the loading dock area and contracts with a hazardous waste disposal firm. Floor drains throughout the facility have been appropriately closed and all non-sanitary discharges to the sanitary waste system have been eliminated. The existing sanitary waste water system has been upgraded.

Recommendation:

- Use Best Management Practices and comply with regulations regarding the handling, storage, and shipping of the hazardous materials and wastes.

3. Underground Storage Tank – A heating oil UST is within the IWPA of Well 1 and the Zone I of Well 2.

Recommendation:

- All tanks in close proximity to water supply wells should be upgraded to meet current construction standards and closely monitored for integrity. Any

Copies of this assessment have been provided to the water supplier, town boards, the town library and the local media.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws, including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

modifications to the UST must be accomplished in a manner consistent with Massachusetts's plumbing, building, and fire code requirements. Consult with the local fire department for any additional local code requirements regarding USTs.

4. Roadways – Local roads run through the Zone Is and IWPAs of both Wells 1 and 2. Accidents can release spills of petroleum products, primarily oils and gasoline and potentially transported chemicals.

Other land uses within the protection areas include residential homes, a registered injection well and agricultural activities. At least two residential homes are located within the IWPA of Wells #1 and #2. The potential threats from residential homes include septic systems, pesticide use, inappropriate management of petroleum and other household hazardous materials. CEI operates a registered injection well that receives non-contact cooling water, the injection well is located within the IWPAs of both drinking water wells. Minor agricultural activities are conducted on the fringes of IWPAs on land owned by CEI. Previously usage was growing corn; the current lease agreement is for growing sod. Agricultural practices, if improperly managed may pose a potential threat to water quality. Be sure that your tenant/contractor is aware that the PWS is in the vicinity and that they contact the Department of Food and Agriculture regarding use of pesticides within and proximal to an IWPA. DFA is also available to provide technical assistance as required. Contact Brad Mitchell of the pesticide bureau at 617-626-1771 or Brad.Mitchell@state.ma.us.

MA DFA's website is <http://www.massdfa.org/pesticide.htm>

Implementing the following recommendations will reduce the system's susceptibility to contamination.

3. PROTECTION RECOMMENDATIONS

Custom Extrusion, Inc. should review and consider adopting the following recommendations at the facility:

Priority Recommendation:

- 3 Continue controlling water usage to minimize the area of contribution and use diligence in storing and handling hazardous materials on site.

Zone I:

- Keep all new non-water supply activities out of the Zone I. Please note that water systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use, conducting activities within the Zone I or modifying their system.
- Continue monitoring water usage. Keep your total water consumption below the monthly average daily use of 3,894 gpd to maintain compliance with the calculated Zone I and IWPA protective radii.
- Consider well relocation if Zone I threats cannot be managed.
- Closely monitor your UST for indications of leakage. Upgrade as necessary.
- Prohibit public access to the wellhead using locking facilities and posting signs.
- Limit parking near well #1.
- Conduct regular inspections of the Zone I. Look for illegal dumping, evidence of vandalism.
- Monitor road and parking lot drainage to ensure it flows away from well. Work with your community to ensure that stormwater runoff in the Zone I and IWPA is directed away from the well and is treated according to DEP guidance.
- Use Best Management Practices and comply with regulations regarding the handling, storage, and shipping of the hazardous materials and wastes.

Training and Education:

- Train all staff on proper labeling, hazardous material use, disposal, emergency response, and best management practices. Post labels as appropriate on raw materials and hazardous waste.
- Maintain drinking water protection signs in key visibility locations.

Facilities Management:

- Implement standard operating procedures regarding proper storage, labeling, use and disposal of hazardous materials. To learn more, see the hazardous materials guidance manual at www.state.ma.us/dep/brp/dws/dwspubs.html.
- Upgrade all oil/hazardous material storage areas to incorporate proper containment, labeling and safety practices.
- Septic system components should be inspected and maintained on a regular basis. Refer to the appendices for more information regarding septic systems.
- Concrete protective surface pads or collars around wells should slope away from wellhead.
- Pole mounted utility transformers may contain PCBs. Contact the utility to determine if the PCB containing oil has been replaced. If PCBs are present, urge the immediate removal.

Planning:

- Work with local officials in Sheffield to include CEIs IWPA in their Aquifer Protection District Bylaws and to assist you in improving protection.
- Prepare a Wellhead Protection Plan and Emergency Response Plan to address short-term water shortages, and long-term water demands and protection. Keep the phone number of a bottled water company readily available.
- Work with the Sheffield Board of Health to encourage education of residents regarding proper maintenance of septic systems, chemical management and lawn care. See attachments.
- Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts.
- Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.
- Encourage farms in the IWPA to seek assistance from the Natural Resource Conservation Service (NRCS) or DFA in addressing management issues as necessary. Be sure that your tenant/contractor is aware that the PWS is in the vicinity and that they contact the Department of Food and Agriculture regarding use of pesticides within an IWPA. DFA is also available to provide technical assistance as required. Contact Brad Mitchell of the pesticide bureau at 617-626-1771 or Brad.Mitchell@state.ma.us. MA DFA's website is <http://www.massdfa.org/pesticide.htm>

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to encourage discussions to assist the water supplier in his efforts to protect his water and further review overall local drinking water protection measures.

Attachments

- ◆ Map of the Public Water Supply (PWS) Protection Area.
- ◆ Recommended Source Protection Measures Fact sheet
- ◆ Wellhead Protection Tips for Small Public Water Systems
- ◆ Your Septic System Brochure
- ◆ Developing a Wellhead Protection Plan